

1 *a*<sup>1</sup> Applicants claim priority from this parent application under 35 U.S.C. §120. The  
2 disclosure of the parent application is incorporated herein by this reference.

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4 2. Replace the paragraph beginning at page 9, line 20 of the specification with the following  
5 paragraph:

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6 Tires are comprised of approximately 56% various organic compounds,  
7 including rubber and natural and synthetic binders, 30% carbon black, 10%  
8 stainless steel, and 4% inert materials by weight. The preferred molten aluminum  
9 or aluminum alloy reactant metal, preferably held at a minimum temperature of  
10 approximately 800 degrees Celsius, strips elements from the carbon atoms in the  
11 *a*<sup>2</sup> organic compounds to form various aluminum and perhaps other metal salts. The  
12 liberated carbon sublimates to a gaseous state at the operating temperature of the  
13 molten reactant metal and some of the metal salts may also go into a gaseous  
14 phase. Other metal salts produced by the reaction may separate by gravity to the  
15 top of the reactant metal alloy below any graphite layer.

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16  
17 3. Replace the title at lines 1 and 2 of the abstract, page 15, with the following title:

18 **METHOD FOR RECOVERING MATERIALS FROM WASTE TIRES**

19  
20 IN THE CLAIMS

21 I. ~~Cancel Claim 5.~~

22 II. The following claims are amended and rewritten in accordance with 37 C.F.R. 1.121(c).

23 Exhibit B to this response includes a marked up version of each amended claim.

1 1. (Amended) A method for recovering material from waste tires, the method comprising the  
2 steps of:

- 3 (a) contacting substantially whole waste tires with a molten reactant metal for a  
4 reaction period;  
5 (b) collecting process gases released from the molten reactant metal during the  
6 reaction period, the collecting of process gases including positioning a gas  
7 recovery hood in an operating position in which a lower edge thereof extends into  
8 the molten reactant metal around the area in which the waste tires contact the  
9 molten reactant metal, the gas recovery hood defining a gas collection area in  
10 which the process gases released from the molten reactant metal are trapped;  
11 (c) containing the waste tires on a tire carrier when the waste tires are contacted by  
12 the molten reactant metal; and  
13 (d) removing unreacted solids from the molten reactant metal after the reaction period,  
14 the unreacted solids being contained on the tire carrier for removal.

15  
16 6. (Amended) The method of Claim 1 further comprising the step of:

- 17 (a) directing process gases trapped in the gas collection area to an aqueous scrubber  
18 and removing metal salts and carbon from the process gases with the aqueous  
19 scrubber.  
20

21 7. (Amended) The method of Claim 1 further comprising the step of:

- 22 (a) purging the gas collection area of air prior to collecting substantial amounts of  
23 process gases in the gas collection area.

III. Add the following new claims under 37 C.F.R. 1.121(c).

8. (New) A method for recovering material from a tire, the method comprising the steps of:
- (a) contacting a tire portion with a molten reactant metal including aluminum for a reaction period sufficient to allow substantially all organic materials originally included in the tire portion to react with the molten reactant metal;
  - (b) containing the tire portion on a tire carrier when the tire portion is contacted by the molten reactant metal; and
  - (c) removing the tire carrier and unreacted solids retained on the tire carrier from the molten reactant metal immediately after the reaction period, the unreacted solids comprising solids remaining after the tire portion has contacted the molten reactant metal for the reaction period.
9. (New) The method of Claim 8 further comprising the step of maintaining the temperature of the molten reactant metal at a minimum of approximately 800 degrees Celsius during the reaction period.
10. (New) The method of Claim 8 wherein the steps of contacting the tire portion with the molten reactant metal and containing the tire portion on the tire carrier include:
- (a) lowering the tire portion into the molten reactant metal on the tire carrier; and
  - (b) pressing the tire portion into the molten reactant metal with a tire contactor member extending across an area above the tire carrier.

1 11. (New) The method of Claim 10 wherein the step of removing unreacted solids from the  
2 molten reactant metal includes:

- 3 (a) lifting the tire contactor member and the tire carrier from the molten reactant metal  
4 and allowing the molten reactant metal to drain from around the unreacted solids,  
5 tire contactor member, and tire carrier; and  
6 (b) cooling the tire carrier and unreacted solids located on the tire carrier.

7  
8 12. (New) A method for recovering materials from a tire portion including stainless steel, the  
9 method comprising the steps of:

- 10 (a) immersing the tire portion in a molten reactant metal including aluminum or an  
11 aluminum alloy for a reaction period sufficient to allow substantially all organic  
12 materials originally included in the tire portion to react with the molten reactant  
13 metal, the molten reactant metal being held at a temperature at which stainless  
14 steel dissolves therein;  
15 (b) containing the tire portion on a tire carrier when the tire portion is immersed in the  
16 molten reactant metal; and  
17 (c) removing the tire carrier and unreacted solids retained on the tire carrier from the  
18 molten reactant metal upon completion of the reaction period, the unreacted solids  
19 including solids remaining after the tire portion has contacted the molten reactant  
20 metal for the reaction period.  
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